Dupilumab leads to better-controlled asthma and quality of life in children: the VOYAGE study

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Abstract

Background Dupilumab has shown long-term treatment benefits in children with uncontrolled asthma. We assessed in more detail the impact of dupilumab on asthma control and health-related quality of life (HRQoL) in children and their caregivers.

Methods Children aged 6–11 years with uncontrolled moderate-to-severe type 2 asthma (baseline blood eosinophils \(\geq 150 \text{ cells} \cdot \text{µL}^{-1}\) or fractional exhaled nitric oxide \(\geq 20 \text{ ppb}; n=350) were treated with dupilumab or placebo for 52 weeks in the VOYAGE study. Primary outcomes of these analyses were asthma control (change from baseline in Asthma Control Questionnaire 7 Interviewer-Administered (ACQ-7-IA) and achieving a clinically meaningful response of \(\geq 0.5\) points); proportion of patients achieving well-controlled asthma or better (ACQ-7-IA \(\leq 0.75\) points); effect on patients’ (Standardised Paediatric Asthma Quality of Life Questionnaire Interviewer-Administered (PAQLQ(S)-IA)) and caregivers’ (Paediatric Asthma Caregiver’s Quality of Life Questionnaire (PACQLQ)) HRQoL; and allergic rhinitis-related QoL.

Results Dupilumab versus placebo significantly improved children’s ACQ-7-IA scores by week 4 with sustained improvements through week 52 (least squares mean difference at week 52: \(-0.44, 95\% \text{ CI} -0.59\text{–}-0.30; p<0.0001\)); a higher proportion achieved a clinically meaningful response (week 52: 86\% versus 75\%; \(p=0.0051\)). At weeks 24 and 52, more children who received dupilumab achieved well-controlled asthma (ACQ-7-IA \(\leq 0.75\) points: 61\% versus 43\%; \(p=0.0001\) and 70\% versus 46\%; \(p<0.0001\), respectively). Significant improvements in PAQLQ(S)-IA and PACQLQ scores were observed by week 52.

Conclusions In children aged 6–11 years with moderate-to-severe type 2 asthma, dupilumab treatment was associated with rapid, sustained improvements in asthma control. HRQoL was significantly improved for children and their caregivers.